

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 9628WO/NW/MZ	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/IB2004/004246	International filing date (<i>day/month/year</i>) 20-12-2004	Priority date (<i>day/month/year</i>) 31-12-2003
International Patent Classification (IPC) or national classification and IPC See Supplemental Box		
Applicant ABB Research Ltd et al		

1.	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.
3.	This report is also accompanied by ANNEXES, comprising: <div style="margin-left: 20px;"> a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows: <div style="margin-left: 20px;"> <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. </div> </div> <div style="margin-left: 20px;"> b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions). </div>
4.	This report contains indications relating to the following items: <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application </div>

Date of submission of the demand 01-08-2005	Date of completion of this report 07-03-2006
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer Henrik Eriksson/MN Telephone No. +46 8 782 25 00

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/IB2004/004246

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: **Cover sheet**

International patent classification (IPC)

G06F 3/00 (2006.01)

G05B 19/409 (2006.01)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/IB2004/004246

Box No. I Basis of the report

1. With regard to the language, this report is based on:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rules 12.3(a) and 23.1(b))
- ☐ publication of the international application (Rule 12.4(a))
- ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the claims:
- pages _____ as originally filed/furnished
- pages* _____ as amended (together with any statement) under Article 19
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/IB2004/004246

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-24</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-24</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-24</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

The claimed invention relates to a system and a method that enable a user to interact with a virtual control panel. The invention can be applied to different industrial processes, where a user needs a control panel for interacting with a device or a system. The object of the invention is to provide a portable control panel that the user can carry with him/her. The interaction between the user and the devices is also simplified, since the interfaces can be standardized. The user only has to interact with a single interface, which changes its representation in dependence of the closest device.

Documents cited in the International Search Report:

D1: EP 1271293 A2 D3: US 20020044104 A1
D2: WO 0192944 A1 D4: US 20020191004 A1

Documents D1 and D2 have been reconsidered to define the general state of the art. Documents D3 and D4 also define the general state of the art.

Document D1 discloses a system and a method that enable a user to interact with a virtual control panel. The user wears a head-mounted see-through display that shows the user a view comprising the "real world" and the virtual control panel (column 4, lines 24-30). The user can interact with a number of different devices, e.g. domestic appliances and vending machines (column 1, lines 6-18). For example, the volume of a

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Supplemental Box

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television set could be adjusted or the television set could be turned on or off (figs. 3a-3d). The user could also receive valuable information about a certain device (column 4, lines 31-39). Information about available commands associated with a certain device, i.e. the graphical interface that represents the control panel of the device, is stored in a database in the system (column 6, lines 12-25). The user selects devices and commands by moving his/her view. However, the description also discloses that commands can be selected by pointing at virtual objects that are visible in the field of view of the user (column 1, line 32-column 2, line 10).

Document D2 discloses a system for generating a virtual display. A mobile display device (6 in fig.2a) is connected to a processing unit (5), which is provided for generating a virtual image (abstract and claim 4). The position of the virtual image is fixed and depends on a reference point that is specified by the user.

The system according to document D1 is considered to represent the closest prior art. The invention according to claims 1 and 12 differs from D1 in that the system enables a user to interact with the virtual control panel using a "pointing object". Further, the virtual control panel is projected in a fixed relation to an identification element, i.e. the control panel will follow the identification object as if it is physically attached to the element.

The subject-matter of claims 1 and 12 is therefore novel (Article 33(2) PCT).

The difference between the claimed invention and D1 relates to the problem that the control panel could be in the field of vision of the user and thereby distract the user. The solution to this problem is proposed in claims 1 and 12 of the present application. The control panel will follow the identification object as if it is physically attached to the element. Hence, the user can put the virtual control panel away when doing other tasks.

The cited prior art does not give any indication that would

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lead a person skilled in the art to the claimed system and method. Therefore, the claimed invention is not obvious to a person skilled in the art. Consequently, the invention according to claims 1 and 12 is considered as involving an inventive step (Article 33(3) PCT).

The remaining claims are dependent on claims 1 and 12, and as such also meet the requirements of the PCT with respect to novelty and inventive step.

The invention is industrially applicable.